

Salvo™

UM-EN-Castell-Salvo-SWL-0526-1

Salvo Safety System

Steering Wheel Lock (SWL) User Guide



No Compromise on Safety.

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Disclaimer

Every effort has been made to ensure that the information in this publication is accurate and complete at the time of issue. The information, examples, diagrams, and illustrations are provided for general guidance, product description, and installation reference only. They do not constitute guaranteed performance characteristics.

The end user is responsible for site-specific risk assessment, competent installation, commissioning, inspection, and compliance with all applicable laws, regulations, standards, and codes.

All applicable local, national, and international regulations, standards, and codes take precedence over the guidance provided in this document. Installation, commissioning, maintenance, and repair must be carried out only by suitably qualified and competent personnel.

Users must report any suspected error, omission, ambiguity, or safety concern in this document to their site supervisor and to Castell Safety International Ltd. before proceeding with installation, commissioning, operation, or maintenance.

The manufacturer reserves the right to modify the design of the product at any time without notice. Confirm that you are referring to the current issue of this document. The current issue of each Salvo document is available on the Sentric Safety Group Ltd website.

This manual is provided for guidance purposes only and does not form part of any contractual agreement.

Safety Information



Read the contents of this guide carefully before use.

Symbols Used

	Warning Indicates a hazardous situation which, if not avoided, could result in serious injury or death.
	Caution Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	The information icon alerts the reader to relevant facts and important information. Does not indicate a hazard.

Compliance

The Salvo Steering Wheel Lock has been tested and complies with the following standards and legislation:

Functional and Safety Standards

Defeatability assessment: Compliant with BS EN ISO 14119

Lock & key retention Force: 250 N Tested to GS-ET-31E, clause 4.16

Lock & key blocking Torque: 5 Nm Tested to GS-ET-31E, clause 4.17

Environmental Legislation

RoHS Directive: 2015/863

REACH Regulation: 1907/2006

Environmental & Temperature Testing

High Temperature: +60 °C, tested per parameters and methodology of BS EN 60068-2-2

Low Temperature: -40 °C, tested per parameters and methodology of BS EN 60068-2-1

Corrosion and Load Testing

Salt Mist Test: 96 hours, per BS EN 60068-2-11

Fixation Tensile Extraction Test when fitted to a steering wheel: 1000 N

Durability

Life Cycle Test: 30,000 cycles

Safety Considerations

	The SWL does not physically prevent a vehicle from being driven away. A vehicle can still be moved while the SWL is fitted, which may cause serious injury or death to personnel in the loading area. Do not rely on the SWL alone to prevent drive-away. Always apply the vehicle restraint and site traffic management procedures required for the loading bay. Use the SWL in addition to, and never as a substitute for, all applicable local regulations and site-specific safety rules.
	Dispose of all packaging and transportation materials in accordance with site requirements.

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1. INTRODUCTION

1.1. Manual Overview

This guide covers the product description, safety requirements, operating sequence, and maintenance of the Salvo™ Steering Wheel Lock (SWL).

It is intended for the vehicle operator and warehouse operator responsible for the loading dock safety sequence.

1.2. Document revision history

Revision	Change	Author	Design	NPD	Compliance	Marketing	Date
1	New release	JB	MG	SM	NP	NC	03.08.2026

1.3. Term Definitions

Term	Definition
Drive-away	An incident in which a vehicle departs from the dock while loading or unloading is still in progress.
SCP	Salvo Control Panel – manages the system logic, key trapping, and loading bay door controls.
SWL	Salvo Steering Wheel Lock – the mechanical device fitted to the steering wheel to restrict steering wheel rotation and provide a visual and physical indication that loading or unloading operations are in progress.
Salvo Holder	A specially designed support device used to securely store the Salvo Steering Wheel Lock when not in use, ensuring safe handling and easy retrieval at loading/unloading areas.
Trapped Key	The key released from the SWL once correctly engaged. Transferred to the SCP to authorise dock operations.

2. PRODUCT OVERVIEW

2.1. Description

The SWL enables safe loading operations for rigid vehicles and box trucks of 7.5 tonnes and larger. It integrates with the Salvo Loading Dock Safety System to enforce a controlled, step-by-step loading sequence. Once fitted to the steering wheel, the SWL restricts steering wheel rotation and releases a trapped key. That key is transferred to the Salvo Control Panel (SCP), which authorises dock door operation. When operations are completed, the key is returned from the SCP, the SWL is removed, and the vehicle may depart.

2.2. Technical Data

Product Names	SALVO Steering Wheel Lock (SWL)
Part Numbers	SALVO-SWL
SWL Weight	2.8 kg
SWL Housing Material	PU / ABS (Shore 90A), Aluminium, Stainless Steel
SWL Lock Material	Stainless Steel
Min. Steering Wheel	External diameter: 430 mm — Distance from rim edge to wheelbase centre: 180 mm
SWL Overall Dimensions	W 307.96 mm × H 194.44 mm × D 220.47 mm
SWL Colour	Red / Black

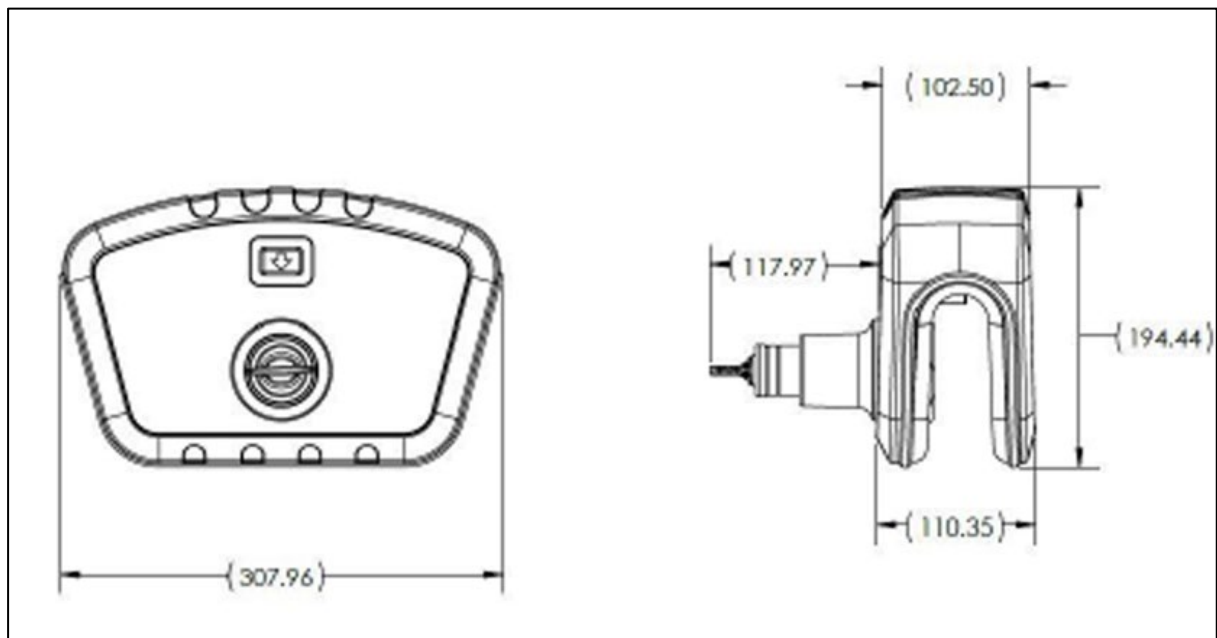


Figure 1: SWL (Dimension Units – mm)

3. SAFETY & PRECAUTIONS

 WARNING	WARNING • The SWL must only be fitted to a stationary vehicle with the engine switched off. • A dropped or impact-damaged unit must be removed from service immediately and must not be used until it has been inspected by a competent person. A damaged unit may fail to hold the trapped key securely, allowing dock operations to be authorised while the vehicle is not secured. • The SWL must not be modified, adapted, or used outside the scope described in this guide. Modification may prevent the SWL from functioning as intended and may create a hazard. • Do not fit the SWL to a steering wheel smaller than the minimum dimensions stated in section 2.2. If the steering wheel is too small, the SWL may not engage fully and may fall from the wheel, causing injury to personnel or damage to the vehicle. • Always use the handle when lifting or carrying the SWL. The SWL weighs 2.8 kg and may cause injury if dropped. • The key must not be removed from the SWL unless the device is correctly fitted to the steering wheel. Bypassing this function allows dock operations to be authorised while the vehicle is not secured, and may cause serious injury or death.
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	Forcing key release before full engagement may damage the device.
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4. OPERATING SEQUENCE

The SWL enforces a defined sequence between steering wheel locking and dock door activation. This process helps ensure the vehicle remains securely oriented during loading and unloading, providing a clear visual deterrent against accidental drive-aways and supporting safe operational practices.

 WARNING	WARNING The SWL does not physically prevent a vehicle from being driven away. A vehicle can still be moved while the SWL is fitted, which may cause serious injury or death to personnel in the loading area. Do not rely on the SWL alone to prevent drive-away. Always apply the vehicle restraint and site traffic management procedures required for the loading bay.
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4.1. Fitting the SWL

INSTRUCTION		
1	Take the SWL from the SWL Holder at the loading bay. Hold it firmly by the handle and lift it clear of the holder.	
2	With the vehicle stationary and the engine off, place the SWL over the top of the steering wheel, centring it on the upper rim.	
3	Slide the SWL downward along the steering wheel rim until it seats fully. A green 'OK' indicator will appear on the face of the device, confirming correct engagement. If the indicator is not visible, reposition and repeat.	
4	Press the key cylinder firmly inward until it stops, then rotate 90° anticlockwise. Once engaged, a trapped key will be released from the device. The SWL is now trapped onto the steering wheel.	

5	Transfer the released key to the Salvo Control Panel (SCP) and insert it into the key slot.	
6	Turn the key to the trapped position to authorise loading bay operations.	

4.2. Removing the SWL

INSTRUCTION		
1	Once loading or unloading is complete and confirmed: Go to the Salvo Control Panel (SCP). Press and hold the pushbutton, then turn the trapped key anticlockwise to release and remove from the SCP.	
2	Insert the returned trapped key into the SWL key slot. Press the key firmly inward until it stops, then rotate 90° clockwise.	
3	Slide the SWL upward off the steering wheel and remove it completely. Return the SWL to the SWL Holder. Confirm the steering wheel moves freely. The vehicle may now depart safely.	

4.3. Storing the SWL

1	The SWL shall be stored on the designated SWL Holder.	
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 CAUTION	CAUTION Ensure the SWL is fully seated and securely retained on the SWL Holder to minimise the risk of accidental dropping or damage.
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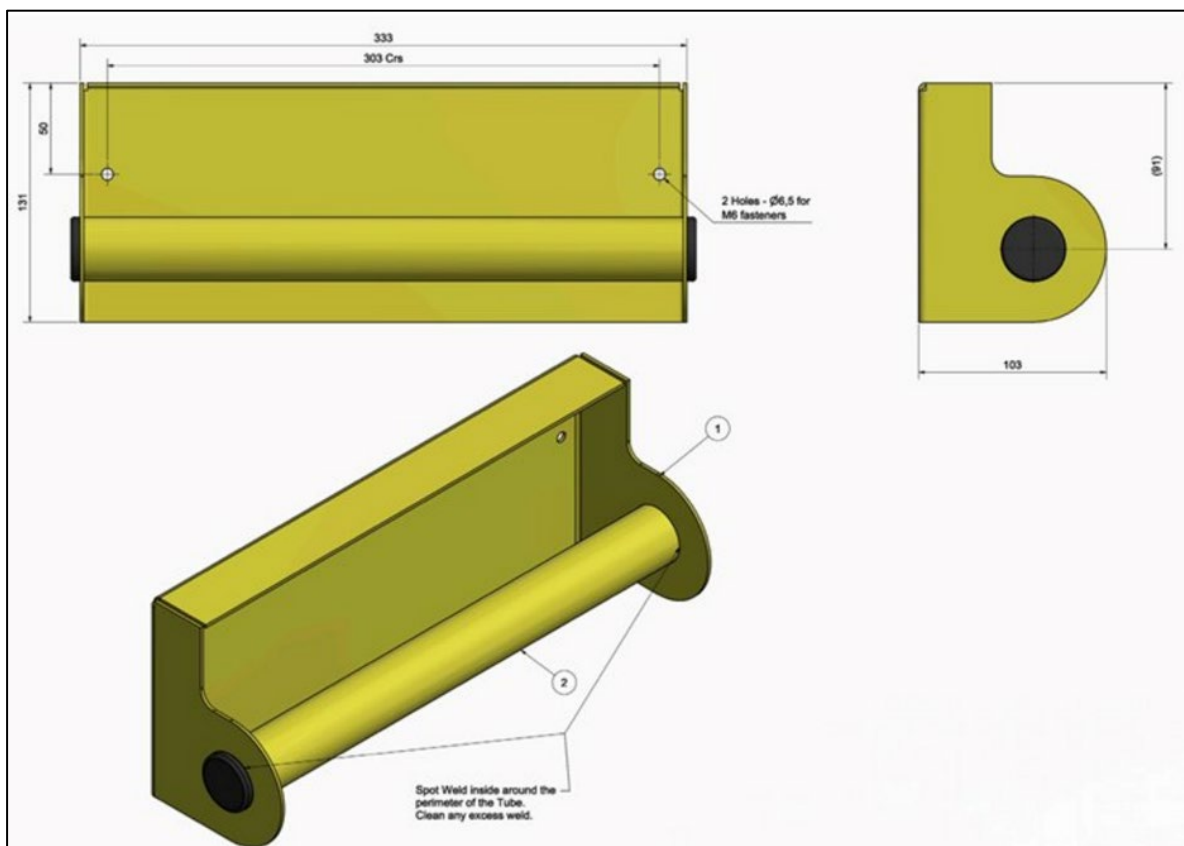


Figure 2: 007528-1 Salvo Holder (Dimension Units – mm)

Technical Data

Product Names	Salvo Holder
Part Numbers	Salvo Holder
Salvo Holder Weight	1.6 kg
Salvo Holder Material	Powder-coated mild steel
Overall Dimensions (Without rubber inserts)	W 333 mm × H 131 mm × D 103 mm
Colour	Powdercoat-RAL2016

5. MAINTENANCE

	WARNING All maintenance and inspection activities must be carried out by a competent person familiar with the SWL and the Salvo safety system.
	Regular maintenance ensures the continued safe and reliable function of the SWL. • A pre-use inspection must be carried out before each use, as detailed in section 5.1. • A full health check must be conducted at regular intervals in accordance with the Salvo Health Check Guide.

5.1. Pre-Use Inspection

Inspection Point	What to Check	Action if failed
Housing	No visible cracks, deformation, or impact damage.	Remove from service. Report and replace.
Plunger movement	Plungers move freely and spring back without sticking.	Lubricate as per section 5.3. Remove from service if sticking persists.
Key cylinder	Key inserts and rotates smoothly. 'OK' indicator is clearly visible on correct engagement.	Remove from service if stiff or indicator unclear.
Cleanliness	Free from dirt, grease, or debris that could impair operation.	Wipe with a dry cloth or mild non-solvent cleaner.

5.2. Cleaning

- Keep the SWL clean and free from dirt and debris.
- Do NOT use aggressive solvents or abrasive cleaners.
- Cleaning supports long-term reliability and ease of operation.

5.3. Lubrication

**CAUTION**

Handle all lubricants in accordance with the manufacturer's safety data sheet and applicable local regulations for hazardous substances.

Apply Dry Graphite Powder to the inner locking plungers every 6 to 12 months, or more frequently in harsh or dusty environments.



5.4. Removal from Service

**WARNING**

A device removed from service must not be returned to use until it has been inspected and approved by a competent person or the manufacturer.

**WARNING**

Remove the SWL from service immediately if any of the following apply:

- Visible damage to the housing, plungers, or key cylinder.
- The key cannot be released or returned correctly.
- The 'OK' indicator does not appear on correct engagement.
- Any component is missing or has been modified.

6. SUPPORT & FAULT REPORTING

	WARNING In the event of a fault, damage, or abnormal operation, do not attempt unauthorised repair. For UK technical support Contact Castell; enquiries@castell.com For USA technical support Contact Kirk; technical.supportkirk@sentricksafetygroup.com
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6.1. Troubleshooting

Issue	Possible Cause	Action
Key cannot be removed	SWL not correctly installed	Reinstall SWL until "OK" indicator is visible
Plunger movement stiff	Lack of lubrication or contamination	Clean and lubricate plungers
Visible damage	Impact or wear	Remove from service
SWL will not trap on wheel	Incorrect wheel size or damaged device	Do not use; replace device

6.2. Dismantling and Decommissioning

All parts must be disposed of in accordance with local regulations and environmental requirements.

6.3. Foreseeable Misuse

Bypassing or defeating the safety interlock is strictly prohibited.

The following are reasonably foreseeable forms of misuse of the SWL:

- Use of a master key to release the trapped key outside the authorised sequence.
- Deliberate manipulation of the key cylinder while the SWL is not correctly fitted to the steering wheel, in order to release the trapped key.
- Removal of the SWL from the steering wheel while loading or unloading operations are in progress.
- Modification or removal of any component of the SWL.

**WARNING**

Defeating the safety interlock allows dock operations to be authorised while the vehicle is not secured or allows a vehicle to depart while personnel are working in the loading area. This may cause serious injury or death.

To control these risks, the user shall:

- Hold master keys only under the control of authorised senior personnel, under defined conditions, and record their issue and return.
- Control physical access to the Salvo Control Panel.
- Instruct all operators that the trapped key must only be released through the authorised sequence.
- Report any SWL that releases its key when not correctly fitted and remove it from service in accordance with section 5.4.

These examples are not exhaustive. The user shall carry out and document a risk assessment of the complete installation, identify any additional reasonably foreseeable misuse, and implement suitable risk reduction and procedural controls before placing the equipment into service.

6.4. Related Documentation

The Salvo Control Panel (SCP) Installation Manual covers installation of the control panel that the SWL trapped key is transferred to during the operating sequence.

Document Number	Title
IM-EN-Castell-Salvo-SCP-0526	Salvo Control Panel (SCP) Installation Manual
MM-EN-Castell-Salvo-SCP-0426	Salvo Health Check Guide

6.5. Manufacturer Contact Information

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